

medical fields is to be established at the Naval Air Facility, McMurdo. During the 1959 winter period, programs in physiology, marine biology, and bacteriology will be conducted at this biomedical facility. A physiologist will investigate the effects of cold plus altitude at the South Pole Station. A program in physiological psychology at Halley Station will investigate sleep patterns of personnel during the winter and summer months.

Scientists will carry out summer science research programs in zoology, biology, psychology, and Ichthyology. These scientists will utilize the McMurdo medical facility while collecting data in the McMurdo area.

*Cosmic rays.*—The present programs at Wilkes and Ellsworth Stations would be maintained under cooperative arrangements with other countries. In addition, small balloons carrying miniaturized Geiger counters and radiation detectors would be launched for the study of cosmic ray intensity and energy spectrum.

*Geomagnetism.*—The geomagnetic program at Byrd Station would be maintained. The program presently at Little America would be transferred to the new Beardmore Station. Cooperative programs would be maintained at Wilkes, Halley, and Scott stations, although no United States personnel will be required.

*Glaciology, geology, traverse seismology and gravity, meteorology, glacial geology, micrometeorology.*—These programs are grouped together for greater ease in planning and administering field operations. Winter and summer programs will be conducted as during the IGY.

A primary traverse is planned for the Byrd Station with smaller efforts for the South Pole, Beardmore, and Wilkes Stations. Summer field programs from Beardmore and Wilkes will also include work in geology and glacial geology. A glaciologist will be stationed at Ellsworth and two glacial geologists at Halley and Scott Stations on a cooperative basis with other countries. The summer program at the McMurdo air facility and its vicinity will include work in glacial geology, geology, geomorphology, volcanology, ice-shelf deformation studies and elements of a deep drilling program. Ice samples will be collected for the analysis of oxygen isotope ratios. A small administrative office will be maintained to carry out the necessary equipment procurement and planning and coordination of the field program.

*Ionospheric physics.*—The IGY ionospheric program would be maintained at Byrd, Pole, Halley, Wilkes, and Ellsworth Stations. Programs at Halley, Wilkes, and Ellsworth as well as Scott Base would be conducted jointly with the other countries concerned. A program would be established at Beardmore Station with the equipment presently at Little America. One scientist would be provided at all stations except Byrd, where a second scientist would be provided for the radio noise program.

*Meteorology.*—The IGY program will be maintained at all stations. The station breakdown is as follows:

*Beardmore Station.*—Complete surface and upper air, plus special scientific meteorological observations as at Little America during IGY.

*Amundsen-Scott Station.*—Similar to IGY program plus complete ozone program.

*Byrd Station.*—Similar to IGY program.

*Little America Station.*—Basic surface and upper air observations.

*McMurdo Station.*—Scientific meteorological observations and liaison (United States Navy expected to provide basic surface and upper air observations.)

*Halley Station.*—Scientific meteorological observations. (U. S. Navy expected to provide basic surface and upper air observations.)

*Wilkes Station.*—Similar to IGY (possible joint United States-Australian operation).

*Ellsworth Station.*—Similar to IGY (possible joint United States Argentine operations).

*Oceanography.*—Three teams of two oceanographers would conduct programs in oceanography and marine biology on shipboard. The observations would be made in Antarctic waters on board Navy ships during the summer operational season. Standard oceanographic stations consisting of biological samplings, Nansen casts, bottom sampling, and bathythermographs will be made, and it is hoped that seismic refraction profiles, using two ships, could be made.

*Rocket soundings of the atmosphere.*—A rocket research program consisting primarily of a shipboard launching program, together with a small land-based effort is planned. Several types of small rockets will be used in the program.